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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/595,274

03/29/2007

Dennis May

356952.00045-US

6585

78905 7590 01/05/2010

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EXAMINER

SAVLA, ARPAN P

ART UNIT

PAPER NUMBER

2185

MAIL DATE

DELIVERY MODE

01/05/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

DETAILED ACTION

Response to Amendment

This Office action is in response to Applicant's communication filed September 24, 2009 in response to the Office action dated June 24, 2009. Claims 2-6, 12, and 13 have been amended. Claims 2-6 and 11-13 are pending in this application.

OBJECTIONS

Specification

1. In view of Applicant's amendment, the objection to the title is withdrawn.

Claims

2. In view of Applicant's amendment, the objections to **claims 2-6, 12, and 13** are withdrawn.

REJECTIONS NOT BASED ON PRIOR ART

Claim Rejections - 35 USC § 101

3. In view of Applicant's amendment, the 101 rejection of **claim 13** is withdrawn.

REJECTIONS BASED ON PRIOR ART

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 2-4 and 11-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Goldman (U.S. Patent 5,963,982).

6. As per claims 11 and 13, but more specifically claim 11, Goldman discloses a method of managing in a computing device the use of random access memory arranged in the form of a plurality of blocks and used to store data in the form of a plurality of frame pages, the method comprising

using a thread of operating system code which is arranged to run on the computing device when no other thread is ready to run to initiate defragmentation of the data, and characterised by restricting defragmentation of the data to when it is determined that the frame pages of data after defragmentation can be held in a reduced number of blocks of memory in comparison to prior to defragmentation, thereby to reduce the number of blocks of the memory used to store the frame pages of data and requiring to be refreshed, and thereby reduce the power consumed from the power resources of the computing device to store the said data (col. 3, lines 33-42 and 46-56; Fig. 2). *It should be noted that because the computer system is "idle" it follows that "no other thread is ready to run". It should also be noted that Goldman discloses the stored data is "compacted" during the defragmentation routine, therefore, it follows that Goldman discloses "the frame pages of data after defragmentation can be held in a reduced number of blocks of memory in comparison to prior to defragmentation". Lastly, it should be noted that limitations "thereby to reduce the number of blocks of the*

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memory used to store the frame pages of data and requiring to be refreshed” and “thereby reduce the power consumed from the power resources of the computing device to store the said data” are simply intended uses of the defragmentation. A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. See MPEP 2106 II(C) and 2111.04.

As per claim 12, Goldman discloses a computing device programmed to manage the use of the computing device's random access memory (RAM), said RAM being arranged in the form of a plurality of blocks and used to store data in the form of a plurality of frame pages, comprising:

means for initiating defragmentation of the data using a thread of operating system code arranged to run on the computing device when no other thread is ready to run (col. 3, lines 46-56; Fig. 2);

means for restricting defragmentation of the data to when it is determined that the frame pages of data after defragmentation can be held in a reduced number of blocks of memory in comparison to prior to defragmentation, thereby reducing the number of blocks of the memory used to store the frame pages of data and in need of being refreshed, and thereby reducing the power consumed by power resources of the computing device to store the said data (col. 3, lines 46-56; Fig. 2). *See the citation notes above for claims 1 and 11.*

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7. **As per claim 2**, Goldman discloses the said thread is arranged to contain code for performing the defragmentation of the data (col. 3, lines 33-42 and 46-56; Fig. 2).

8. **As per claim 3**, Goldman discloses the said thread is arranged to contain code for causing a further code to perform the defragmentation of the data (col. 3, lines 33-42 and 46-56; Fig. 2).

9. **As per claim 4**, Goldman discloses the said thread comprises a thread of operating system code for causing the computing device to adopt a reduced power mode by placing a central processing unit of the computing device into a standby mode, thereby to further reduce the power consumer from the power resources of the computing device (col. 3, lines 46-56; Fig. 2). *It should be noted that because the computer system is "idle" it follows that CPU 10 is in some kind standby mode (i.e. receiving no input). It should also be noted that the limitation "thereby to further reduce the power consumed from the power resources of the computing device" is simply an intended use of the standby mode. A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. See MPEP 2106 II(C) and 2111.04.*

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over

Goldman in view of Altare (U.S. Patent Application Publication 2004/0148476).

12. **As per claim 5**, Goldman discloses the said thread (col. 3, lines 33-42 and 46-56; Fig. 2).

Goldman does not disclose the said thread comprises a thread which is arranged to be a first thread to run at boot time of the computing device.

Altare discloses a defragmentation thread which is arranged to be a first thread to run at boot time of the computing device (paragraphs 0016-0017 and 0037).

Goldman and Altare are analogous because they are from the same field of endeavor, that being defragmentation of memory systems.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to apply Altare's boot time defragmentation to Goldman's RAM defragmentation routine. The motivation for doing so would have been to assure defragmentation doesn't conflict with other applications, thus, improving overall system performance.

13. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over

Goldman in view of Czajkowski et al. (U.S. Patent 6,453,403) (hereinafter "Czajkowski").

14. **As per claim 6**, Goldman discloses all the limitations of claim except the computing device is selected to comprise a wireless information device.

Czajkowski discloses a computing device is selected to comprise a wireless information device (col. 5, lines 4-10; Fig. 1).

Goldman and Czajkowski are analogous because they are from the same field of endeavor, that being management of memory systems.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to apply Goldman's RAM defragmentation routine, a known technique, to Czajkowski's wireless information device, a known device ready for improvement to yield the predictable results of defragmenting stored data without requiring pointer indirection.

Response to Arguments

15. Applicant's arguments filed September 24, 2009 with respect to **claims 2-6 and 11-13** have been fully considered but they are not persuasive.

16. With respect to Applicant's argument regarding Goldman's disclosure of defragmentation of data when the computer system is idle, which appears on pages 10-11 of the communication filed September 24, 2009, the Examiner respectfully disagrees. initially, in response to Applicant's argument that the references fail to show certain features of Applicant's invention, it is noted that the features upon which Applicant relies ("indication of how the idle determination is made", i.e., "an actual triggering even that identifies the idle state of the computer system having commenced") are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into

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the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

The only mention of “triggering” or “initiating” in Applicant’s claim language is “using a thread of operating system code which is arranged to run on the computing device when no other thread is ready to run to *initiate* defragmentation of the data” in claims 11 and 13 and “means for *initiating* defragmentation of the data using a thread of operating system code arranged to run on the computing device when no other thread is ready to run” in claim 12. (emphasis added) Thus, Applicant’s claims merely disclose the initiating (or triggering) of the defragmentation of the data and not the initiating (or triggering) identifying the idle state of the computer system having commenced as alleged by Applicant.

Additionally, Goldman discloses initiating defragmentation of data when the computer system is idle. This is clear from col. 3, lines 49-51 of Goldman which states, “In step 201, it is determined whether the computer system 1 is idle (i.e., receiving no input). If so, then in step 202 the stored data is defragmented (i.e., compacted).”

Applicant argues that “when the computer is not receiving input” directly contrasts with the instant invention, however, the Examiner submits that in Goldman the defragmentation program/thread may already be stored in the RAM or ROM of the computer system (see Fig. 1), therefore, there is no need to receive input to receive the defragmentation program/thread as the thread is already stored locally within the computer system. Thus, Goldman’s defragmentation can run when the computer system is idle. Accordingly, based on the foregoing, Goldman sufficiently discloses initiating defragmentation of the data using a thread of operating system code arranged

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to run on the computing device when no other thread is ready to run and therefore renders claims 11-13 unpatentable.

17. With respect to Applicant's argument regarding Altare's disclosure of defragmentation running at boot time, which appears on pages 11-12 of the communication filed September 24, 2009, the Examiner respectfully disagrees. When taking the broadest reasonable interpretation of the term "thread", the Examiner submits that Altare's "software product" contains "threads" and therefore reads on Applicant's claimed "thread". Also, Altare's "software product" provides equivalent functionality as Applicant's "thread", as simply and broadly claimed by Applicant, because Altare's "software product" runs at boot time to defragment data the same as Applicant's thread runs at boot time to defragment data. Accordingly, based on the foregoing, the combination of Goldman/Altare renders claims 5 unpatentable.

18. As for Applicant's arguments with respect to the dependent claims, the arguments rely on the allegation that the independent claims are patentable and therefore for the same reasons the dependent claims are patentable. However, as addressed above, the independent claims are not patentable, thus, Applicant's arguments with respect to the dependent claims are not persuasive.

Conclusion

STATUS OF CLAIMS IN THE APPLICATION

The following is a summary of the treatment and status of all claims in the application as recommended by MPEP 707.70(i):

CLAIMS REJECTED IN THE APPLICATION

Per the instant office action, **claims 2-6 and 11-13** have received an action on the merits and are subject of a final action.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Arpan P. Savla whose telephone number is (571) 272-1077. The examiner can normally be reached on M-F 8:30-5:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sanjiv Shah can be reached on (571) 272-4098. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Arpan Savla/
Examiner, Art Unit 2185
December 29, 2009

/Tuan V. Thai/
Primary Examiner, Art Unit 2185